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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/365,118	07/30/1999	DIETER MICHEL	56/327	1392

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EXAMINER
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NATIVIDAD, PHILIP SANA

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 02/13/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/365,118

Applicant(s)

MICHEL ET AL.

Examiner

Phil Natividad

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the response address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 2 recites simply that the "housing is oscillation insensitive." Specification page 8 lines 12-16 appear relevant to this limitation. However, contrary to applicant's argument, page 8 lines 12-16 do not describe that the 'housing has sufficient thickness that allows the plate 8 to be oscillation free', but rather that the housing walls are **not** massive enough to prevent oscillations. It is unclear to the examiner whether the further lines 17-18, enabling rigidity, are what is intended to prevent the oscillations acknowledged in lines 12-16.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 3-13, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka et al. (5,661,296 previously cited). Ishizuka discloses a rotary position measuring

system as claimed, except without expressly disclosing a housing. However, it is notoriously well known in optical arts to enclose components, for a motivation of e.g. improving signal by reducing noise from ambient light.

***Response to Arguments:*** Applicant's arguments filed 11/4/02 have been fully considered but they are not persuasive. As to claim 1, applicant argues that the prior art does not disclose a housing. However, it is notoriously well known in optical arts to enclose components for a motivation of e.g. improving signal by reducing noise from ambient light. Applicant further argues that the prior art does not disclose a scanning unit connected with the housing. However, it would have been obvious to one of ordinary skill to mount the light source and detector comprising scanning unit in an aligned manner on a housing for a motivation of e.g. maintaining their alignment to each other.

Further as to claim 1, the prior art discloses measurement of gratings displaceable **relative** to each other along the measuring direction. Applicant argues that Huber does not disclose a reflection scanning graduation directly on a housing. However, the simplest arrangement for relatively movable gratings is for one grating to remain stationary while the other is moving. Thus it would have been obvious to one of ordinary skill, given the teachings of state of the prior art, to arrange the device to mount one grating to the housing for motivation of maintaining alignment (see above).

Applicant further argues that Huber does not disclose a measuring graduation structure between a scanning unit and a scanning graduation structure. However, as noted above, it would have been merely an obvious rearrangement of the prior art (which teaches **relative** movement) to have **either** the first or second grating to be movable, since they are equivalent relative measurements, for motivation of more simplicity (see above) and maintaining alignment (see above).

As to claim 2, with scanning unit mounted to the housing for motivation of alignment (see above), it would have been obvious to one of ordinary skill in the art to make the housing insensitive to oscillations or fluctuations for motivation of maintaining said alignment.

As to claims 3-12 and 18-19, it would have been obvious to one of ordinary skill in the art to fasten or arrange the grating as is well-known, of which Official Notice is taken, for motivations of e.g. maintaining alignment or simpler manufacturing. As to claim 11, note Huber col. 5 line 57.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Renner et al. (,027) Fig. 12 and Fig. 20 disclose using a grating on a disk as an alternate embodiment of rotary position measurement; note col. 2 lines 40-44, col. 21 lines 6-9. Also as to claim 9, note teaching of etching a grating at col. 13; as to claim 10 foil, col 12 line 62. Matsuura (,219) col. 1 lines 61-67 and Figs. 20A and 20B show that both moiré (geometrical) and diffractive (interferential) uses of grating position encoders are well known. Holzapfel et al. (,539). Holzapfel (,445).

6. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka as applied to claim 1 above, further in view of Takamiya et al. (,667). Ishizuka teaches applicant's invention as applied to claim 1 above, except without expressly disclosing bar heights. Specifically as to claim 16, note Takamiya col. 3 lines 39-41. It would have been obvious to one of ordinary skill to modify the prior art to meet the claimed limitations of bar heights, of which Official Notice is taken, for motivation of e.g. diffracting light more strongly for better signals.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner can be directed to Phil Natividad whose telephone number is 703-306-5944. The examiner can normally be reached on Tuesday through Friday and alternating Mondays; and supervising patent

examiner Frank G. Font can be reached at 703-308-4881.

In view of delays in mail delivery in recent days, we at the USPTO would like to encourage you to communicate with the USPTO via facsimile. Facsimile transmissions may be used for correspondence as set forth in 37 CFR 1.6 such as: amendments, petitions for extension of time, authorization to charge a deposit account, an IDS, terminal disclaimers, a notice of appeal, an appeal brief, CPAs under 37 CFR 1.53(d), and RCEs.

PTO Form 2038 should be used when authorizing payment by credit card; this form is maintained separate from the file to ensure confidentiality.

The USPTO has recently installed server software that enables us to automatically receive facsimile transmissions and route them to the appropriate groups. No special equipment is needed by our customers to use this system other than a regular facsimile machine. Each Technology Center has its own facsimile numbers associated with our server for Official replies to non-final Office actions and for Official replies to final Office actions. In addition, each Technology Center has a Customer Service Center on our server system, and can answer any general application status questions you might have, can provide Examiner information, and answer paper queries.

The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 or 703-308-7722 for regular communications and 703-872-9319 or 703-308-7722 for After Final communications.

Tech Center 2800 Customer Service is at 703-306-3329 or 703-872-9317. Any inquiry of a general nature or relating to the status of this application or proceeding can also be directed to the receptionist whose telephone number is 703-308-0956.



Phil Natividad  
Patent Examiner  
psn  
February 6, 2003



**FRANK G. FONT**  
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